1905MNRAS..65..264G

TABLE VII.

Concluded Elements of Y Aurigæ.

Period of variation	$3^{d}{\cdot}8590 = 3^{d}\ 20^{h}\ 36^{m}\ 58^{s}$
Epoch of maximum	1901 Feb. 4, $15^{h}\ 22^{m}$ G.M.T. = J.D. 2415420·64
Maximum brightness	8·63 mag.
Minimum "	9·60 "
" to maximum	$0^{d}\ 17^{h}\ 31^{m}$ *
Maximum to minimum	$3^{d}\ 3^{h}\ 6^{m}$
Ratio of increase to decrease	0·23

On the Relative Brightness of Stars. By J. E. Gore.

If the parallax of a star is known, its absolute brightness, or the total amount of light emitted by the star in terms of the Sun's brightness taken as unity, can be easily computed. In the following table I have computed the amount of light in terms of the Sun's light emitted by those stars for which a fairly good parallax has been found. To find the stellar magnitude to which the Sun would be reduced if removed to the distance indicated by the star's parallax, I have used the formula given in my paper in the *Monthly Notices*, vol. lxiii. p. 168 (June 1903), namely

$$M = \log\left(\frac{1}{p}\right) + 0{\cdot}07$$

where p is the parallax, and Sun's stellar magnitude $= -26{\cdot}5$.

In column 4 the Harvard photometric magnitude is given, except for a few faint stars which are not given in the Harvard Catalogues. In column 5 the best determination of the parallax is given, those marked with an asterisk being perhaps the most reliable; in column 6 the spectrum as observed at Harvard is given; in column 7 the Sun's magnitude if removed to the distance of the star, computed from the above formula; and in column 8 the ratio of the star's light to the Sun's light, if both are supposed placed at the same distance from the Earth. In those cases in which the star is a binary, the mass of the system, computed from the best orbit hitherto computed, is given in the column of remarks.

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* But nearly the whole amount of the increase takes place in less than twelve hours.

1905MNRAS..65..264G

1	2		3		4	5	6	7	8	
Star.	R.A. 1900.		Dec. 1900.		Phot. Mag.	Parallax.	Spectrum.	Sun's mag. at Star's distance.	Relative Brightness.	Remarks.
	h	m	°	′		″				
β Cassiopeiæ ...	0	3·8	+58	36	2·42	0·10*	F5G	5·07	11·49	
Groombridge 34	0	12·7	+43	27	(7·9)	0·30	...	2·68	0·008	Proper motion = 2″·80
ζ Tucanæ ...	0	14·9	−65	28	4·34	0·15*	F8G	4·19	0·87	
β Hydri ...	0	20·5	−77	49	2·90	0·134*	G	4·43	4·09	Proper motion = 2″·28
η Cassiopeiæ ...	0	43·1	+57	17	3·64	0·154*	F8G	4·13	1·57	Mass = 1·6222 × Sun's mass
μ Cassiopeiæ ...	1	1·2	+54	27	5·34	0·11	H	4·84	0·63	Proper motion = 3″·75
Polaris	1	18·5	+88	43	2·12	0·074	F8G	5·72	27·55	
α Eridani ...	1	34·0	−57	44	0·60	0·043	B5A	6·90	331·18	
τ Ceti	1	39·4	−16	28	3·65	0·31*	G ?	2·61	0·38	
ε Eridani ...	3	15·9	−43	27	4·30	0·16	G5K	4·05	0·79	
o_2 Eridani ...	4	10·7	− 7	49	4·48	0·166*	H ?	3·97	0·62	Proper motion = 4″·05
Aldebaran ...	4	30·2	+16	18	1·06	0·107*	K5M	4·92	35·00	
Cordoba Z. V, 243	5	7·7	−44	59	(8·5)	0·312*	...	2·60	0·004	Proper motion = 8″·70
Capella	5	9·3	+45	54	0·21	0·081*	G	5·48	128·23	Mass = 12·7 × Sun's mass
Sirius	6	40·8	−16	35	−1·58	0·37*	A	2·23	33·42	Mass = 3·5465 × Sun
Procyon	7	34·1	+ 5	29	0·48	0·325*	F5G	2·51	6·49	Mass = 3·627 × Sun
Ll 2957	7	41·9	−33	59	5·42	0·064	...	6·04	1·75	
10 Ursæ Maj. ...	8	54·2	+42	11	4·09	0·20	F5G	3·56	0·61	
Ll 18115 ...	9	7·7	+53	7	(7·5)	0·14	H	4·34	0·054	
Leonis ...	10	3	+12	27	1·34	0·022	B8A	8·36	642·7	
A.Oe. 10603 ...	10	5·3	+49	58	6·76	0·18	H	3·79	0·064	
Groombridge 1646	10	21·9	+49	21	6·54	0·11	A ?	4·86	0·21	
l 21185 ...	10	57·9	+36	38	7·60	0·47	...	1·71	0·004	Proper motion = 4″·75
l 21258 ...	11	0·5	+44	2	(8·5)	0·24	...	3·17	0·007	Proper motion = 4″·40
Groombridge 1830	11	47·2	+38	26	6·47	0·15*	A ?	4·19	0·122	Proper motion = 7″·05
l 22954	12	10·0	− 9	43	6·05	0·14	E	4·34	0·207	
Crucis ...	12	21	−62	32	1·05	0·05	B1A	6·57	165·96	
Centauri ...	13	56·8	−59	53	0·86	0·046	B1A	6·75	226·99	
rcturus ...	14	11·1	+19	42	0·24	0·024	K	8·17	1486	
Centauri ...	14	32·8	−60	25	0·06	0·75*	G K5M	0·69	1·786	Mass = 2·00 × Sun's mass
ntares	16	23·3	−26	13	1·22	0·021	Ma	8·46	787·04	
Draconis ...	17	30·2	+55	15	4·2	0·32	A ?	2·54	0·216	
.Oe. 17415 ...	17	37·0	+68	26	(9·0)	0·25	...	3·08	0·004	
Ophiuchi ...	18	0·4	+ 2	31	4·07	0·16*	K	4·05	0·98	Mass = 2·939 × Sun

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1905MNRAS..65..264G

1	2	3	4	5	6	7	8	
Star.	R.A. 1900.	Dec. 1900.	Phot. Mag.	Parallax.	Spectrum.	Sun's mag. at Star's distance.	Relative Brightness.	Remarks.
	h m	° ′		″				
α Lyræ	18 33·6	+38 41	0·14	0·082	A	5·50	139·32	
α Aquilæ ...	19 45·9	+ 8 36	0·89	0·231*	A5F	3·25	87·91	
61 Cygni ...	21 2·1	+38 13	4·96	0·39*	H	2·11	0·07	Proper motion = 5″·16
δ Equulei ...	21 9·6	+ 9 36	4·61	0·071*	F	5·81	3·02	Mass = 1·89 × Sun Parallax from Spectroscopic measures by Hussey
ε Indi	21 55·7	−57 12	4·74	0·28*	K5M	2·83	0·17	
α Gruis	22 1·9	−47 27	2·16	0·015	B5A	9·19	648·63	
Fomalhaut ...	22 52·1	−30 9	1·30	0·130	A3F	4·50	18·88	
Lacaille 9352 ...	22 59·4	−36 26	7·1	0·29	...	2·78	0·018	Proper motion = 7″·0

On the Terms of Long Period in the Complete Expression for the Moon's Longitude. By E. Nevill.

The appearance of Mr. Cowell's Note in the Supplementry Number of the *Monthly Notices* (vol. lxiv. p. 838), on a term of long period in the Moon's longitude indicated by the observed errors in the tabular place of the Moon, suggests the desirability of my forwarding for publication the first few terms of the expression I have deduced for the correction of Hansen's tabular longitudes, which includes a number of terms of long period whose values I have determined.

This portion of the complete expression is

$$
\begin{aligned}
\Delta L = &+\{0''{\cdot}56+0{\cdot}44j\} \\
&+\{30{\cdot}60+0{\cdot}22j\}(T-1800{\cdot}50) \\
&+\{4{\cdot}75\}(T-1800{\cdot}50)^2 \\
&+1''{\cdot}15j\sin\{4E-8M+3J+79^{\circ}\} \\
&+4{\cdot}11\,.\sin\{3V-7E+4M+327\} \\
&+15{\cdot}34\,.\sin\{18V-16E-\alpha+35{\cdot}3\}^{*} \\
&-14{\cdot}40\,.\sin\{18V-16E-\alpha+31{\cdot}7\} \\
&+21{\cdot}47\,.\sin\{8V-13E+274{\cdot}2\}^{*} \\
&-7{\cdot}97\,.\sin\{8V-13E+227{\cdot}7\}
\end{aligned}
$$